

**G****Gain**

The increase of voltage, current, or power over a standard or previous reading. Usually expressed in decibels.

**Ground (GND)**

An electrical connection between a circuit and the earth. Also refers to a conductor connected to earth. In some instances, can refer to a central metallic point designated as having "zero" potential.

**Guide Pin**

A pin or rod extending beyond the mating face of a two-piece connector and designed to guide the closing or assembly of the connector to assure proper mating of contacts, and to prevent damage to these contacts caused by mismatching of the connector halves.

**H****Thermal shock**

Test to determine the stability of a material when exposed to a sudden high temperature change for a short period of time.

**Hertz(Hz)**

International standard term for cycles per second. Named after the German physicist Heinrich R.Hertz (e.g.60 cycles per second is equal to 60 Hz or 60 Hz).

**High Frequency**

The band from 3 to 30 MHz in the radio spectrum, as designated by the Federal Communications Commission.

**I****I**

Symbol used to designate current

**IEC**

Abbreviation for International Electrotechnical Commission.

**IEEE**

Abbreviation for Institute of Electrical and Electronics Engineers.

**IM/PIM**

The result of two (or more) signals of different frequencies being mixed together in a signal processing path, forming additional, unwanted signals

**Impedance**

the ratio of the voltage phase to the electric current phase, a measure of opposition to time-varying electric current in an electric circuit. It is measured in ohms.

**Impedance Match**

A condition in which the impedance of a component or circuit is equal to the internal impedance of the source, or the surge impedance of a transmission line. This gives maximum transfer of energy from the source to the load, as well as minimum reflection and distortion.

**Inductance**

The property of a circuit or circuit element that opposes a change in current flow, thus causing current changes to lag behind voltage changes. It is measured in Henrys.

**Induction**

The phenomenon of a voltage, magnetic field, or electrostatic charge being produced in an object by lines of force from the source of such fields.

**Input**

A signal(or power) which is applied to a piece of electric apparatus or the terminals on the apparatus to which a signal or power is applied.

**Insertion Loss**

The loss in load power due to the insertion of a component, connector or device at some point in a transmissions system. Generally expressed in decibels as the ratio of the power received at the load before insertion of the apparatus, to the power received at the load after insertion.

**Insulation**

The use of material to resist the flow of electric current and magnetism

**Insulation Resistance**

The electrical resistance of the insulating material (determined under specified conditions) between any pair of contacts, conductors, or grounding device in various combinations.

**Interconnection**

Mechanically joining assemblies together to complete electrical circuits.

**Interface**

A surface forming a common boundary between two regions, things, etc which cannot be mixed

**ISO**

Abbreviation for International Standards Organization.

**J****Jacket**

An outer non-metallic protective cover applied over an insulated wire or cable.

**L****LAN**

Abbreviation for Local Area Network. A data communications network confined to a limited geographic area(up to 6 miles or about 10 kilometers.).

**Laser**

A coherent source of light with a narrow beam and a narrow spectral bandwidth (about 2nm).

**Leaching**

The movement of metal atoms from the lead base metal into liquid solder. This is prevented by nickel plating. May also refer to alloying of a gold protective plating into the solder.

**Line Drop**

A voltage loss occurring between any two points in a power or transmission line. Such loss, or drop, is due to the resistance, reactance, or leakage of the line.

**Line impedance**

Impedance as measured across the terminals of a transmission line; frequently the characteristic impedance of the line.

**Lightning arrester**

A device used on electrical power system to protect the insulation on the system from the damaging effect of lightning. Metal oxide Varistor (MOVs) have been used for power system protection since the mid 1970s. The typical lightning arrester also known as surge arrester has a high voltage terminal and a ground terminal. When a lightning surge or switching surge travels down the power system to the arrester, the current from the surge is diverted around the protected insulation in most cases to earth.

**Loss**

Energy or signal lost without accomplishing useful work.

**Low Noise Cable**

Cable specially constructed to avoid spurious electrical disturbances caused by mechanical movement.

**M****MCX (MICROAX)**

Micro coaxial connector with snap-on coupling mechanism. Available in 50Ω and 75Ω versions. Frequency range DC - 6 GHz.

**Megahertz(MHz)**

Unit of frequency equal to one million hertz(one million hertz per second).

**Microm**

Prefix meaning one-millionth (10<sup>-6</sup>)

**Microstrip**

A type of transmission line configuration which consists of a conductor over a parallel ground plane, and separated by a dielectric.

**Microwave**

The portion of the electromagnetic spectrum lying between the far infrared and conventional radio frequency range. The microwave frequency range extends from 1 GHz to 300 GHz.

Microwaves are usually used in point-to-point communications because they are easily concentrated into a beam.

**MIL**

Abbreviation for military (e.g. in Military Standards).

**MMCX**

Miniature Microax connector with snap-on coupling mechanism. Available in 50 Ω and 75 Ω versions. Frequency range DC - 6GHz.

**Modulation**

Altering the characteristics of a carrier wave to convey information. Modulation techniques include amplitude, frequency, phase, plus many other forms of on-off digital coding.

**Moisture Resistance**

The ability of a material to resist absorbing moisture from the air or when immersed in water.

**Motherboard**

A printed board used for interconnecting arrays of plug-in electronic modules.

**Multiplex**

A technique for putting two or more signals into a single channel.

**N****N (Navy Connector)**

Coaxial connector with screw type coupling mechanism. Available in 50 Ohm and 75 Ohm versions. Frequency range DC-18 GHz (50 Ohm) And 1 GHz (75 Ohm), respectively.

**Nano**

One-billionth (10<sup>-9</sup>)

**Nanometer (nm)**

One-billionth of a meter =(10<sup>-9</sup>) meter

**NBR**

Butadiene-acrylonitrile copolymer rubber, a material with good oil and chemical resistance.

**Noise**

In a cable or circuit, any extraneous signal which tends to interfere with the signal normally present in or passing through the system.

**Nylon**

An abrasion-resistant thermoplastic with good chemical resistance.

**O****Ohm**

The unit of electrical resistance.

**Output**

The useful power or signal delivered by a circuit or device.

**P****Parallel Circuit**

A circuit in which the identical voltage is presented to all components, with current dividing among the components according to the resistances or the impedances of the components.

**Permittivity Relative**

Synonym term for relative dielectric constant.  $\epsilon_r$ .

**Phase**

An angular relationship between waves.

**Phase shift**

Change in phase of a voltage or current after passing through a circuit or cable.

**Pico**

One-trillionth (10<sup>-12</sup>)

**Picofarad**

10<sup>-9</sup> farad. Abbreviation pF or mmF.

**Pin Contact**

A male type contact, usually designed to mate with a socket or female contact. It is normally connected to the "dead" side of a circuit.

**Plastic**

High polymeric substances, including both natural and synthetic products that are capable of flowing under heat and pressure, called thermoplastics. Unlike rubber and other thermoset compounds, plastics can be remelted and reused.

**Plated through-hole**

A hole through a printed circuit board that has been electroplated and which a lead is placed and soldered for electrical and mechanical connection.

**Polyethylene**

A thermoplastic material having excellent electrical properties.

**Polymer**

A substance made of many repeating chemical units or molecules. The term polymer is often used in place of plastic, rubber, or elastomer.

**Polyolefin**

Any of the polymers and copolymers of the ethylene family of hydrocarbons, such as polyethylene and polypropylene.

**Polypropylene**

A thermoplastic similar to polyethylene but stiffer and having a higher softening point (temperature).

**Polyurethane**

Broad class of polymers noted for good abrasion and solvent resistance. Can be in solid or cellular form.

**Polyvinylchloride**

A general purpose thermoplastic used for wire and cable insulation and jackets.

**Power**

The amount of work per unit of time. Usually expressed in watts and equal to  $I^2R$ .

**Power Ratio**

The ratio of power appearing at the load to the input power. Expressed in DB, it is equal to  $10 \log_{10} (P_1/P_2)$  where  $P_1$  is input power and  $P_2$  is the power at that load.

**Printed Circuit Board (PCB)**

An epoxy glass and metal composite on which circuits are etched and to which active, passive and hardware components are attached. Also called a PCB or PC board.

**PTFE****(Polytetrafluoroethylene)**

The thermally most stable and chemically most resistant carbonaceous compound. It is unaffected by sunlight, moisture, and virtually all chemicals. Temperature range is  $-200^{\circ}\text{C}$  to  $+260^{\circ}\text{C}$  /  $-392^{\circ}\text{F}$  to  $+500^{\circ}\text{F}$ . Electrical properties are very constant over temperature and a wide of frequencies.

**Pulse**

A change in the level, over a relatively short period of time, of a signal whose value is normally constant.

**Pulse Width**

The length of time that the pulse voltage is at the transient level.

Electronic pulse widths are usually in the millisecond ( $10^{-3}$ ), microsecond ( $10^{-6}$ ) or nanosecond ( $10^{-9}$ ) range.

**PVC**

Polyvinylchloride.